Int J Clin Exp Med 2016;9(2):4545-4550
www.ijcem.com /ISSN:1940-5901/IJCEM0016215

Original Article

Analysis of the clinical value of traditional Chinese medicine adjuvant treatment of coronary atherosclerotic heart disease combined renal dysfunction

Yongsheng Ma[1], Zhencheng Wei[2], Chunhong Wang[1], Jingming Wang[1]

[1]Department of Medical Care, Weifang People's Hospital, Weifang, Shandong 261041, China; [2]Department of Traditional Chinese Medicine, Weifang People's Hospital Weifang, Shandong 261041, China

Received September 15, 2015; Accepted December 22, 2015; Epub February 15, 2016; Published February 29, 2016

Abstract: Objective: To analysis of the clinical value of traditional Chinese medicine adjuvant treatment of coronary atherosclerotic heart disease combined renal dysfunction and provide references for clinical treatment. Methods: According to the parity of medical record number, 139 cases were divided into study and control groups. According to grouping, they were given traditional Chinese medicine assisted western medicine and only western treatment, respectively. Continuous treatment continued for three months. Clinical efficacy, safety, treatment compliance and quality of life of 1 year follow-up data were compared and analyzed between the two groups. Results: In observation group, the total effective rate was 90.0%, which was significantly higher than that of the control group (78.3%) ($P < 0.05$); the incidence of adverse reactions of the two groups were 12.9% and 21.7%, the observation group was significantly better than the control group ($P < 0.05$); in observation group, the comparative treatment compliance and quality of life data were significantly higher than that in the control group ($P < 0.05$). Conclusion: TCM adjuvant treatment of adjuvant coronary atherosclerotic heart disease combined renal dysfunction can enhance the efficacy, safety and compliance, improve the quality of life of patients. It has promotional value for clinical treatment.

Keywords: Chinese medicine adjuvant therapy, western medicine, coronary atherosclerotic heart disease, renal dysfunction, quality of life

Introduction

With the further development of aging society, the incidence of coronary atherosclerotic heart disease was on the rise. Physiological renal function attenuated in the elder, combined with the impact of the disease, these lead to coronary atherosclerotic heart disease combined renal dysfunction increased. Not only etiology and clinical symptoms were complex in these patients, but also the comorbidities were limited in clinical application of drugs, which resulted in poor coronary atherosclerotic heart disease combined renal dysfunction effect and lower the quality of life for patients. Treatment and study on its efficacy has important clinical and social value [1]. Chinese medicine treatment was used for a variety of diseases, particularly for the treatment of chronic diseases which gained significant value. Because it cannot quickly control and improve the symptoms of heart disease, the risk of monotherapy was large. So it is often used for coronary atherosclerosis adjuvant therapy artery disease combined renal insufficiency [2]. Now date of TCM assisted treatment and western medicine treatment alone for coronary atherosclerotic heart disease combined renal dysfunction were compared in clinical study, which was intended to provide guidance for clinical treatment. Now the research process and results were outlined below.

Subjects and methods

Subjects

To ensure the safety of research and enhance its guiding values, we established selection criteria for the study, as follows: (1) Inclusion criteria: TCM and Western medicine diagnosis with coronary atherosclerotic heart disease com-

bined with kidney dysfunction; through imaging and laboratory tests, kidney showed no organic disease [3]; voluntarily accepted medical treatment or surgery with obvious contraindications [4]; voluntarily participated in the study, and in accordance with relevant requirements of medical ethics association [5]; (2) Exclusion criteria: with severe diabetes, hypertension and other medical illness; 15 days before treatment and during treatment using steroids [6]; studies with drug allergy history; patients who drop out during the study or after treatment the clinical data lost [7].

General information

According to inclusion criteria, patients with coronary atherosclerotic heart disease combined renal dysfunction were screened between May 2013 and May 2014. 139 cases were enrolled in the study and were divided into two groups: (1) Study group: 70 cases were studied, and the information was as follows: sex ratio: male/female ratio was 1.8: 1 (45/25); Age: between the ages of 42 and 65 years old, with an average of (58.6 ± 4.5) years; course: 1--4 years course with an average of (2.8 ± 1.2) years; creatinine clearance rate: creatinine clearance was between 130 and 180 ml/min with an average of (145.6 ± 20.8) ml/min; (2) Control group: 69 cases were studied, and the information was as follows: sex ratio: male/female ratio was 1.7: 1 (43/26); Age: between 43 and 66 years (mean 59.2 ± 5.4); course: course was 1--5 years, with an average of (3.2 ± 1.4) years; creatinine clearance ratio: creatinine clearance was between 130 and 185 ml/min, with the average of (145.8 ± 21.3) ml/min. Clinical data on their gender, age, duration and severity, etc. between the two groups showed no significant difference ($P > 0.05$).

Treatment method

Treatment for the study group: In the control group the subjects were given western medicine, such as isosorbide dinitrate, metoprolol, aspirin and other for treatment of coronary atherosclerotic heart disease drugs. Combined with anti-infection, diuretic drugs can correct electrolyte imbalance symptoms of renal dysfunction symptomatic. Specific drug, mode of administration and dose were according to clinical routine. Evaluation of treatment efficacy was performed after 3 months of treatment.

Treatment for the observation group: In the observation group, TCM assist western medicine was given. Its western medication, dosage and mode of administration were according to the administration and operation of the control group. Its adjuvant treatment was based on Chinese medicine treatment of coronary atherosclerotic heart disease based side. According to clinical renal dysfunction symptoms and adverse reactions to subtract the dosage for patients, specific herbs were as follows: (1) Coronary atherosclerotic heart disease treatment: blood stasis due to qi deficiency: give Ginseng tonic Decoction; stagnation of yang in the chest: Trichosanthes kirilowii Allium macrostemon white wine Decoction; qi-stagnancy and blood stasis: Blood House Stasis-Expelling Decoction; Blood stasis due to Yin Deficiency: Zuogui Yin; Repression of damp and heat: Small trapped chest soup; (2) Renal dysfunction: mild lumbago, skelasthenia, and nocturnal enuresis: plus fructus psoraleae, Semen Cuscutaedodder, semen amomi amari; dysphoria [fever] in chestpalms-soles and deficiency dysphoric insomnia: Plus the root bark of the peony tree, cortex lycii radicis. Patients with palpitations, dizziness, and nocturnal enuresis, psoralen, Curculigo, Epimedium and Cistanche were added; when drinking water was not based and skin edemad, whole party of Zhenwu decoction was added; patients with dizziness and tinnitus, semen and prunella, keel, oysters were added; (3) Adverse treatment: nausea, vomiting: plus Agastache, Magnolia, Pinellia and Poria; allergy: cassia twig, plum, licorice, etc; headache, dizziness: Gastrodia elata, Evodia Rutaecarpa, Rhizoma Ligustici Chuanxiong, and so on; collapse, syncope: Even wing, fangchi root, gotu kola, ginseng, astragalus, etc.; bradycardia: Schisandra, antler, licorice and so on. According to disease condition, the combined administration of herbs, according to a daily dose of agent to decoct. Orally take them after the morning and evening meals. Continuous administration of the 30 days for a course and following three courses to give the efficacy evaluation after treatment.

Evaluation items and standards

Evaluation items, evaluation content and evaluation criteria are as follows: (1) Efficacy: using ECG and clinical symptom improvement as efficacy evaluation content; specific criteria are as follows: effective: electrocardiogram showed

Table 1. Baseline characteristics of the two groups

Parameter	Observation group (70)	Control group (69)	T (X^2)	P
Age (Year)	58.6 ± 4.5	59.2 ± 5.4	-1.005	0.133
Sex (F/M)	25/45	26/43	0.443	0.532
BMI (Kg/m^2)	25.4 ± 3.2	25.6 ± 3.4	2.161	0.221
SBP (mmHg)	140.3 ± 25.1	122.0 ± 14.1	1.017	0.113
DBP (mmHg)	87.2 ± 16.8	87.6 ± 11.4	2.921	0.199
Cr (mmol/L)	175.8 ± 33.4	171.9 ± 26.8	1.091	0.323
BUN (mmol/L)	16.37 ± 6.0	15.9 ± 1.6	1.369	0.201
Creatinine clearance rate (ml/min)	145.6 ± 20.8	145.8 ± 21.3	0.303	0.775
Uric acid (mmol/L)	387 ± 121	384 ± 81	1.773	0.097
GLU (mmol/L)	7.9 ± 3.4	7.7 ± 0.9	1.564	0.201
TG (mmol/L)	3.6 ± 6.0	3.2 ± 0.9	1.511	0.061
TC (mmol/L)	4.9 ± 2.1	4.7 ± 1.0	0.948	0.393
HDL-C (mmol/L)	1.5 ± 1.2	1.4 ± 0.5	1.57	0.223
LDL-C (mmol/L)	2.66 ± 1.0	2.65 ± 0.85	1.124	0.115
Disease course (Year)	2.8 ± 1.2	3.2 ± 1.4	0.992	0.216

Table 2. Comparative study of clinical efficacy of the two groups

Groups (n)	Effective	Improved	Ineffective	Worsening	total effective rate (%)
Observation group (70)	38	25	7	0	90.0
Control group (69)	26	28	12	3	78.3
X^2					4.238
P					0.042

normal in quiet state; in submaximal graded exercise test, ECG was normal or exercise tolerance increased 2 grades (+); and the clinical symptoms disappeared completely; improvement: in quiet state electrocardiogram was significantly improved after treatment, but did not return to normal; after treatment, clinical symptoms were significantly improved; invalid: electrocardiogram and clinical symptoms had no significant improvement after treatment; worsening: ECG and clinical symptoms worsened after treatment. The total effective rate = (CR + improvement) cases/Research cases * 100% [8]; (2) Safety: the cases of adverse reactions during treatment were summed, and incidence of adverse reactions was calculated, as security evaluation criteria. Safety was negatively correlated with the incidence of adverse reactions [9]; (3) Treatment compliance: the questionnaire was used to evaluate treatment compliance: fully compliance: Questionnaire total score ≥ 80 points; compliance: Questionnaire total score was 60-80 points; Noncompliance: questionnaire total score ≤ 60 points. Treatment compliance rate = the number of (fully compliance + compliance) cases/the number of research cases * 100%; treatment compliance rate was positively correlated with treatment compliance [10]; (4) The quality of life: the QLQ-C30 questionnaire defined by World Health Organization was used for the evaluation of quality of life; the higher the score, the higher the average quality of life [11].

Data processing

SPSS19.0 statistical software was used for the analysis of research data; measurement data were expressed as ± s, compared by t test; count data were expressed as X (%), compared by X^2 test; when $P < 0.05$, there was a significant difference between the groups.

Results

Comparison of baseline characteristics between the two groups

As shown in **Table 1**, there were not significant differences between the two groups in sex ratio, age, disease course, creatinine clearance rate and blood lipid profiles (all $P > 0.05$).

Efficacy

In observation group, 38 cases were markedly cured; 25 cases were improved; 7 cases were ineffective; there were no worsening cases; the total effective rate was 90.0%, significantly higher than 78.3% of the control group ($P < 0.05$); the specific data were shown in **Table 2**.

Safety

During the treatment, no cases had serious adverse reactions; only a few patients had mild

Table 3. Comparative study of clinical safety of the two groups

Groups (n)	Disgusting Vomiting	Allergy	Headache Dizziness	Collapse Syncope	Bradycardia	Others	Adverse reactions Incidence (%)
Observation group (70)	2	0	2	2	1	2	12.9
Control group (69)	3	2	3	2	2	3	21.7
X^2							4.688
P							0.038

Table 4. Comparative study of treatment compliance of the two groups

Groups (n)	Fully compliance	Compliance	Noncompliance	Total compliance rate (%)
Observation group (70)	38	28	4	94.3
Control group (69)	30	24	15	78.3
X^2				5.326
P				0.028

Table 5. Comparative study of quality of Life of the two groups (scores)

	Physiology	Psychology	Surroundings	Social relationship
Observation group	65.8 ± 3.6	67.6 ± 4.5	72.2 ± 5.3	71.3 ± 4.6
Control group	59.6 ± 3.8	60.2 ± 4.6	64.5 ± 4.8	61.8 ± 5.2
t	26.567	28.465	30.684	32.832
P	0.046	0.040	0.036	0.028

adverse reactions, and after symptomatic treatment, they returned to normal; it did not affect the process of treatment and research. The incidences of adverse reactions of the two groups were 12.9% and 21.7%, respectively, hich was significantly better in the observation group than the control group ($P < 0.05$); the specific data were shown in **Table 3**.

Treatment compliance

In observation group, there were 38 cases of fully compliance in, 28 cases of compliance, and four cases of non-compliance; the total treatment compliance rate was 94.3%, having a significant advantage ($P < 0.05$) compared with 78.3% of the control group; so treatment compliance of the observation group was significantly better than the control group; the specific data were shown in **Table 4**.

Quality of life

According to the order of physiology, psychology, environment, and social relationships, the quality of life scores of 1-year follow-up in observation group were (65.8 ± 3.6) points, (67.6 ± 4.5) points, (72.2 ± 5.3) points and (71.3 ± 4.6) points, which were higher than those in the control group, with a significant advantage ($P < 0.05$); the specific data were shown in **Table 5**.

Renal function

As shown in **Table 6**, the renal function was improved significantly compared to before treatment, especially in the observation group.

Discussion

Atherosclerotic coronary heart disease has become a common clinical cardiovascular disease, and its incidence shows an increasing trend; as the disease progresses and the extension of the duration, the cases associated with renal dysfunction are gradually increasing. Interaction between the two diseases will not only the process of treatment, but also affect the prognosis of the disease; now research on the treatment, efficacy and safety of coronary atherosclerotic heart disease associated with renal dysfunction is lacked in clinical [12]. Therefore Chinese medicine Assisted treatment has important clinical value in Coronary atherosclerotic heart disease associated with renal dysfunction.

Coronary atherosclerotic heart disease associated with renal dysfunction has a great impact on the clinical treatment and medication; at present, although the commonly used western medicine can rapidly improve the clinical symptoms of patients, the kidney dysfunction often has no obvious organic change; so Western medicine can only achieve symptomatic treatment; it cannot fundamentally improve the quality of life of patients, thus exacerbating coronary atherosclerotic heart disease and re-

Table 6. Renal function change after treatment of the two groups

Parameters	Observation group (70)		Control group (69)	
	Before treatment	After treatment	Before treatment	After treatment
BUN (mmol/L)	16.37 ± 6.0	13.31 ± 6.3*,#	15.9 ± 6.1	14.8 ± 6.2
Cr (mmol/L)	175.8 ± 33.4	155.3 ± 31.3*,#	171.9 ± 26.8	168.2 ± 21.4
UA (mmol/L)	387 ± 121	376 ± 124	384 ± 81	380 ± 80
Creatinine clearance rate (ml/min)	145.6 ± 20.8	164.2 ± 21.2*,#	145.8 ± 21.3	151.2 ± 20.4*

*P < 0.05, Compared to before treatments; #P < 0.05, compared to control group.

sulting in a poor prognosis [13]. Chinese medicine treatment in coronary atherosclerotic heart disease associated with renal dysfunction has complete theoretical basis and treatment methods and significant clinical efficacy, but its onset is slow, and the treatment compliance is poor; moreover its values in the treatment of coronary atherosclerotic heart disease associated with renal dysfunction lack studies to confirm; therefore both Chinese and western medicine alone cannot meet the needs of clinical [14]. Traditional Chinese Medicine adjuvant treatment in coronary atherosclerotic heart disease with renal dysfunction not only has the characteristic western medicine with rapid onset, but also has the advantage of Chinese medicine-searching for the primary cause of disease in treatment, thus improving clinical efficacy. At the same time, it regulates the adverse reactions with the help of traditional Chinese medicine to enhance the safety of the treatment, thus improving the compliance and quality of life of treated patients [15]. Therefore, the study on the clinical value of Chinese medicine adjuvant treatment in coronary atherosclerotic heart disease associated with renal dysfunction has medicine value for disease treatment and Chinese medicine promotion.

In this study, comparative analysis method was used to evaluate the values of traditional Chinese medicine adjuvant treatment and western medicine treatment alone in coronary atherosclerotic heart disease associated with renal dysfunction to confirm the clinical value of traditional Chinese medicine-assisted treatment. Research data show that, the efficacy, safety, treatment compliance and quality of life for 1 year follow-up in traditional Chinese medicine adjuvant treatment group were significantly better than those in western medicine treatment group (P < 0.05), thus confirming the clinical value of traditional Chinese medicine adjuvant therapy. To reduce the impact of human factors on the study data, improve the scientificity and accuracy of research data and improve the clinical value, following specific methods are used: (1) According to the selection criteria of subjects, screening of patients was performed rigorously; (2) The study objects were grouped randomly; their gender, age, duration and severity and other basic clinical data were compared and statistically analyzed; (3) Physicians, nurses, statisticians, efficacy evaluators and follow-up staffs involved in the study were randomly assigned, and double-blind operation was performed; (4) Retrieval the relevant research data, and compare related data. Therefore, research data, results and conclusions are scientifically valid, with important guiding values in clinical. Although there are some links to be further improved, such as fewer cases, treatment refinement, lacking degree analysis of adverse reactions and short follow-up period, these factors do not affect the comparative study of the relevant data. So there is room for further development.

In summary, Chinese medicine adjuvant treatment in coronary atherosclerotic heart disease associated with renal dysfunction treatment can enhance the efficacy, safety and compliance, and improve the quality of life of patients, with important values in treatment selection and prognosis improvement.

Disclosure of conflict of interest

None.

Address correspondence to: Jingming Wang, Department of Medical Care, Weifang People's Hospital, No. 151 Guangwen Street, Kuiwen District, Weifang City, Shandong 261041, China. Tel: +86-13963633890; Fax: +86-13963633890; E-mail: wangjingming1961@163.com

References

[1] Pan HY, Wang AY. Meta-Analysis of the effect of Yiqi Yangyin Huoxue therapy in treatment of

diabetic heart disease. Zhong Guo Shi Yan Fang Ji Xue Za Zhi 2015; 21: 205-209.
[2] Shi HZ. Efficacy of traditional Chinese medicine in the treatment of coronary atherosclerotic heart disease. Zhong Xi Yi Jie He Xin Xue Guan Bing Dian Zi Za Zhi 2015; 3: 7-8.
[3] Rezende PC, Garcia RM, Uchida AH, Costa LM, Scudeler TL, Melo RM, Oikawa FT, Garzillo CL, Lima EG, Segre CA, Favarato D, Girardi P, Takiuti M, Strunz CC, Hueb W, Ramires JA, Kalil Filho R. Hypotheses, rationale, design, and methods for evaluation of ischemic preconditioning assessed by sequential exercise tests in diabetic and non-diabetic patients with stable coronary artery disease--a prospective study. BMC Cardiovasc Disord 2013; 23: 865-868.
[4] E LP, Li HY. Clinical observation of renal function in elderly patients with coronary atherosclerotic heart disease. He Bei Yi Yao 2010; 23: 342-344.
[5] Duan XC, Liu MY, Meng C. Effect of integrated traditional Chinese and Western Medicine on left ventricular systolic function in patients with stable coronary artery disease. Zhong Guo Yi Yao 2015; 10: 619-622.
[6] Vitale C, Iellamo F, Volterrani M, Lombardi M, Fini M, Banach M, Rosano GM. Heart rate control in an unselected consecutive population of outpatients with stable coronary artery disease: Analysis of the CARDIf Study Cohort. Angiology 2010; 61: 1263-1266.
[7] Xu P, Tan YX, Chen LD. Study on the effect of Compound Danshen and puerarin in treatment of coronary heart disease. Ling Nan Xin Xue Guan Bing Za Zhi 2011; 17: 48-52.
[8] Stergiopoulos K, Brown DL. Initial coronary stent implantation with medical therapy vs medical therapy alone for stable coronary artery disease. Arch Intern Med 2012; 172: 896-899.
[9] Luo H. Nursing care of elderly patients with coronary artery disease in patients with coronary artery disease. Ji Lin Yi Xue 2011; 23: 158-161.
[10] Xue JG, Zhang XF, Wang YQ. Clinical observation on the treatment of stable coronary heart disease with qi activating blood circulation and resolving phlegm. Zhong Guo Zhong Yi Ji Zheng 2013; 22: 241-243.
[11] Vitale C, Iellamo F, Volterrani M, Lombardi M. Heart rate control in an unselected consecutive population of outpatients with stable coronary artery disease: Analysis of the CARDIf Study Cohort. Angiology 2010; 61: 75-756.
[12] Liu YL. Clinical analysis of 24 cases of acute exacerbation of chronic pulmonary heart disease with acute renal injury. Zhong Hua Lao Nian Duo Qi Guan Ji Bing Za Zhi 2012; 11: 946-947.
[13] Kurtul A, Murat SN, Yarlioglues M, Duran M, Karadeniz M, Ergun G, Akyel A, Mendi MA, Oksuz F. The association of red cell distribution width with in-stent restenosis in patients with stable coronary artery diseas. Platelets 2015; 26: 636-638.
[14] Jing QY, Cao LM. Cheng Wanli's experience in treating coronary atherosclerotic heart disease. Zhong Yi Xue Bao 2012; 23: 362-364.
[15] Shi Y. Clinical analysis of acute myocardial infarction patients with renal dysfunction. Xian Dai Yu Fang Yi Xue 2011; 23: 418-420.